Salesforce to bpm'online migration User Guide

Contents

Introduction

The *Salesforce to bpm'online migration* application provided by the Bridgeports Integration Service makes migrating data from Salesforce fast, easy, and affordable. Built in mappings for major entities ensure successful data migration going without the need of custom development – the application already has the mappings of core out-of-box (OOB) Salesforce and bpm'online. With just a few configuration steps, administrator can load data into bpm'online from your Salesforce instance into bpm'online.

About This Guide

This User Guide provides step-by-step instructions for setting up Salesforce to bpm'online data migration.

- Configuration of endpoints.
- Basic customization of mappings.
- Configuration of schedules.
- Monitoring.

This guide is written for system administrators and information system professionals.

What You Need to Know

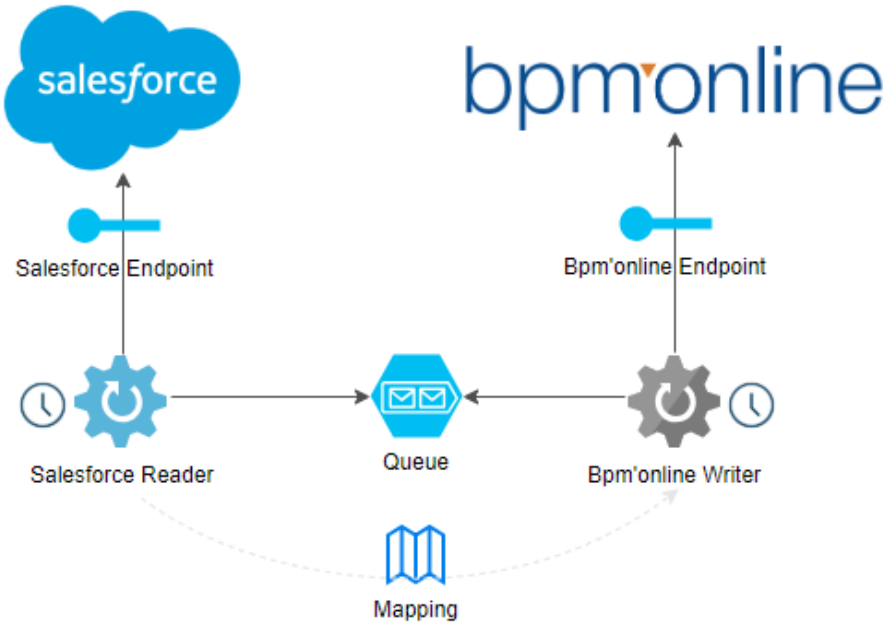
This User Guide assumes you have a working knowledge of Salesforce and bpm'online technologies. If you plan to customize the mappings, you should also be familiar with Salesforce entities and bpm'online entities.

Contacting Us

If you have questions about the *Salesforce to bpm'online migration* application, please contact us at:

Information@Bridgeports.com
www.Bridgeports.com

Data Migration Architecture Overview



At a high level, the data migration process is comprised of the following components:

- **Endpoints**
  - Define the connections into Salesforce/Bpm'online using the native REST APIs provided by both products.
- **Mappings**
  - Defines which entities are migrated from one system to the other.
  - Defines what data transformations need to be applied.
  - May define logical conditions to filter out source records.
- **Salesforce Reader**
  - Gets records from Salesforce.
  - Queues the records for further processing.
  - Controlled by a schedule.
- **Queue**
  - Used to control data flow between the Salesforce Reader and Bpm'online Writer.
- **Bpm'online Writer**
  - Gets records from the Queue.
  - Imports the records into Bpm'online.
  - Controlled by a schedule.

Configuration

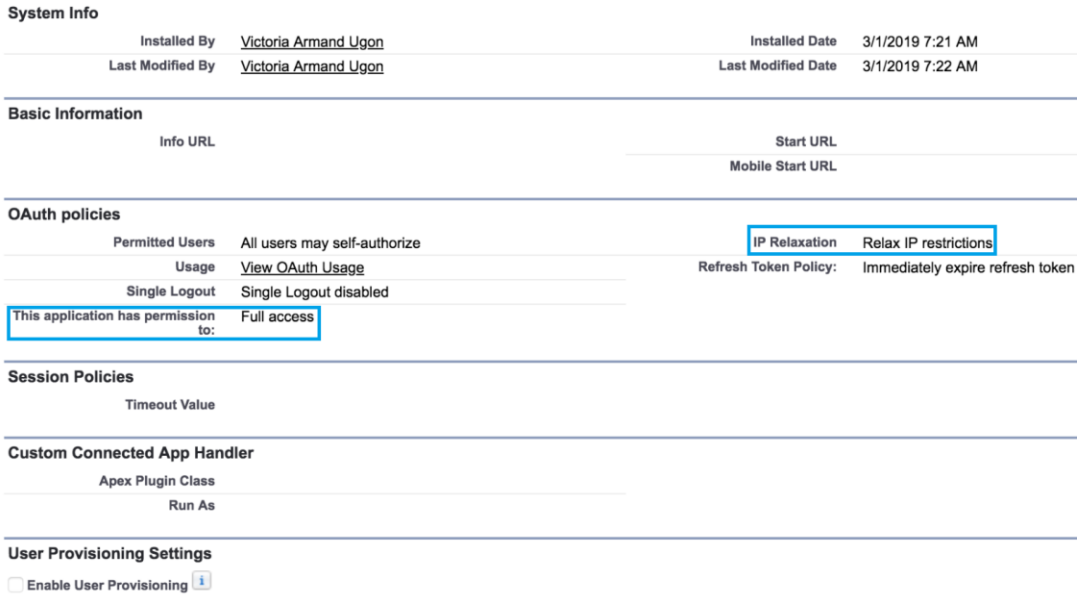
This chapter outlines the tasks you must complete to configure Salesforce to bpm'online data migration.

Prerequisites

Configure Salesforce OAuth

Connecting to Salesforce requires OAuth access.

1. Please refer to this article in Salesforce Knowledgebase to learn how to configure OAuth.
2. Make sure "This application has permission to" is set to "Full Access" and "IP Relaxation" is set to "Relax IP Restrictions".

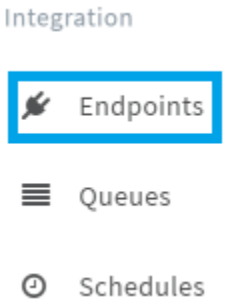


Endpoints

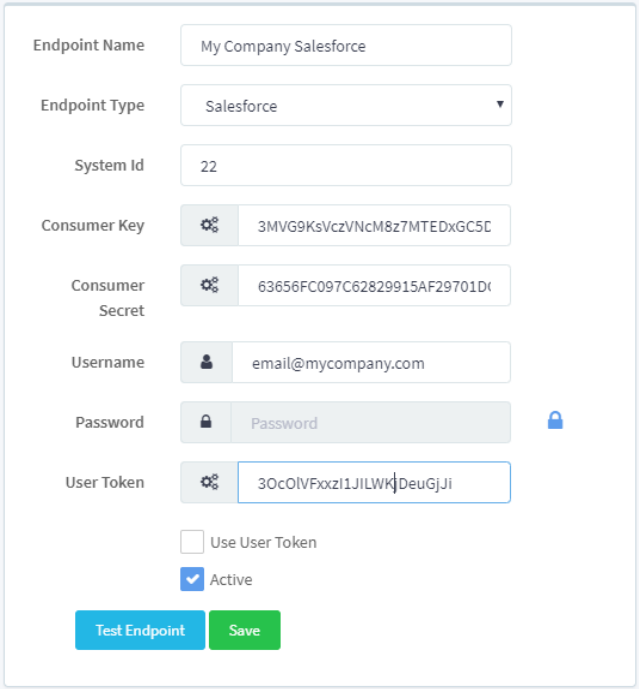
Endpoints define the connections the migration application uses to read and write data. These are provided by Salesforce and bpm'online as standard APIs.

Create Salesforce Endpoint

1. In the navigation bar, click on "Integration" > "Endpoints".



2. Click on the "+" icon to create a new endpoint.
3. Choose "Salesforce" as the Endpoint Type.
4. Enter required settings.



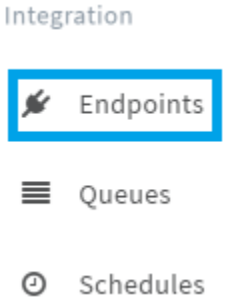
   a. Endpoint Name: Enter a meaningful name (i.e.: "My Company Salesforce").
   b. Endpoint Type: Salesforce.
   c. System Id: Leave default value.
   d. Consumer Key: Enter consumer key generated in previous step.

e. Consumer Secret: Enter consumer secrete generated in previous step.
f. Username: Enter Salesforce username.
g. Password: Enter Salesforce password.
h. Active: Checked.

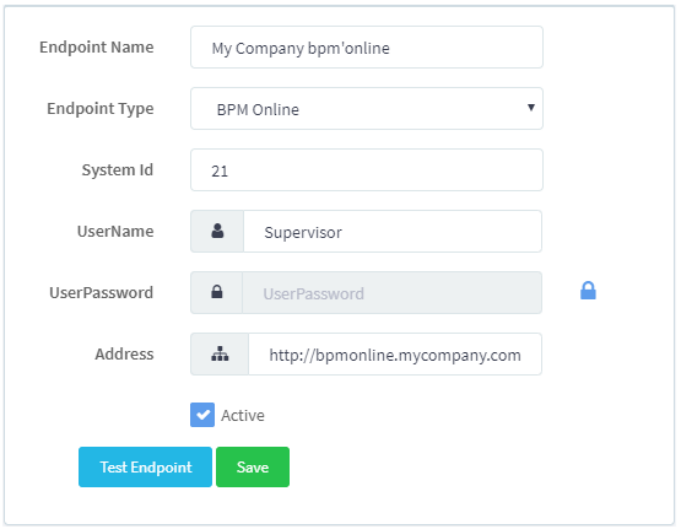
5. Click “Test Endpoint”.
   a. If the endpoint is correctly configured, “Test Endpoint Connection Success” message should be displayed.
6. Click “Save”.

Create bpm’online Endpoint

1. In the navigation bar, click on “Integration” > “Endpoints”.



2. Click on the “+” icon to create a new endpoint.
3. Choose “bpm’online” as the Endpoint Type.
4. Enter required settings.



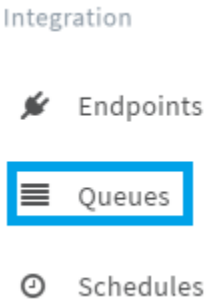
   a. Leave “System Id” with default value.
   b. Make sure “Active” is checked.
5. Click “Test Endpoint”.

   a. If the endpoint is correctly configured, “Test Endpoint Connection Success” message should be displayed.
6. Click “Save”.

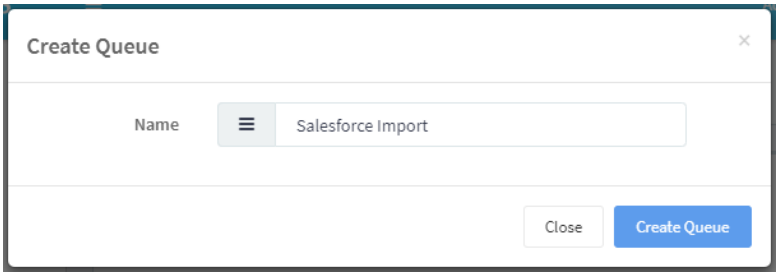
Queues

A Queue is used internally to coordinate data transfer between Salesforce and bpm’online.

1. In the navigation bar, click on “Integration” > “Queues”.



2. Click on the “+” icon to create a new Queue.
3. Set the queue name, and click “Create Queue”.



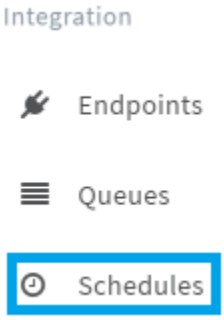
4. You should now see the newly created Queue in the list.

Schedules

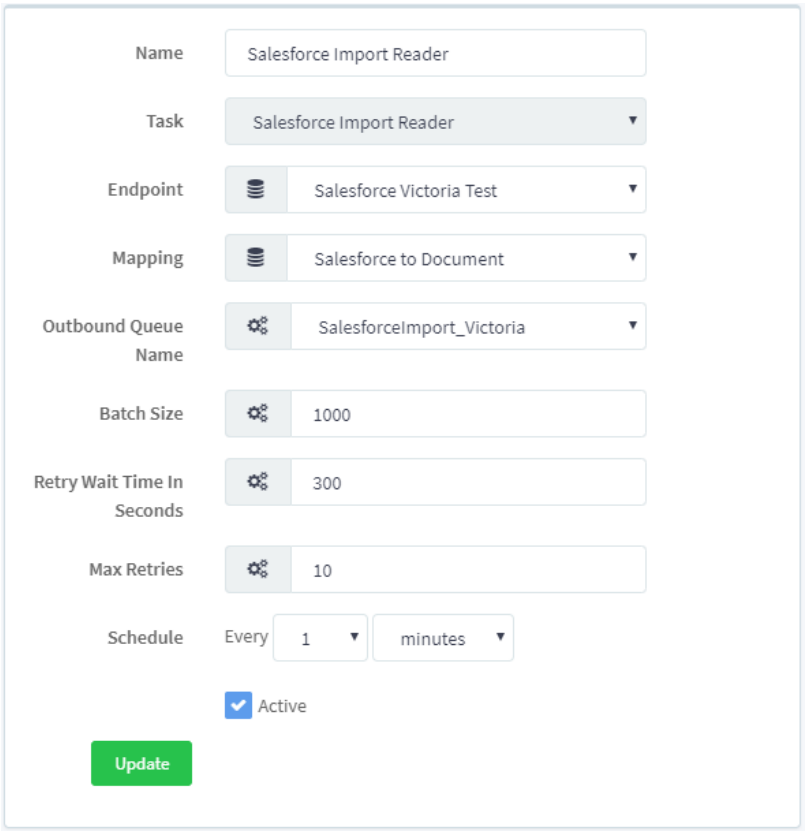
Schedules define when data is read from Salesforce or written to bpm'online. This allows configuring data migration to start at a specific date/time.

Salesforce Import Reader Schedule

1. In the navigation bar, click on "Integration" > "Schedules".



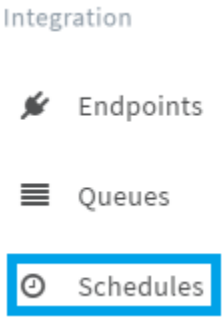
2. Click on the "+" icon to create a new Schedule.
3. Enter required settings.



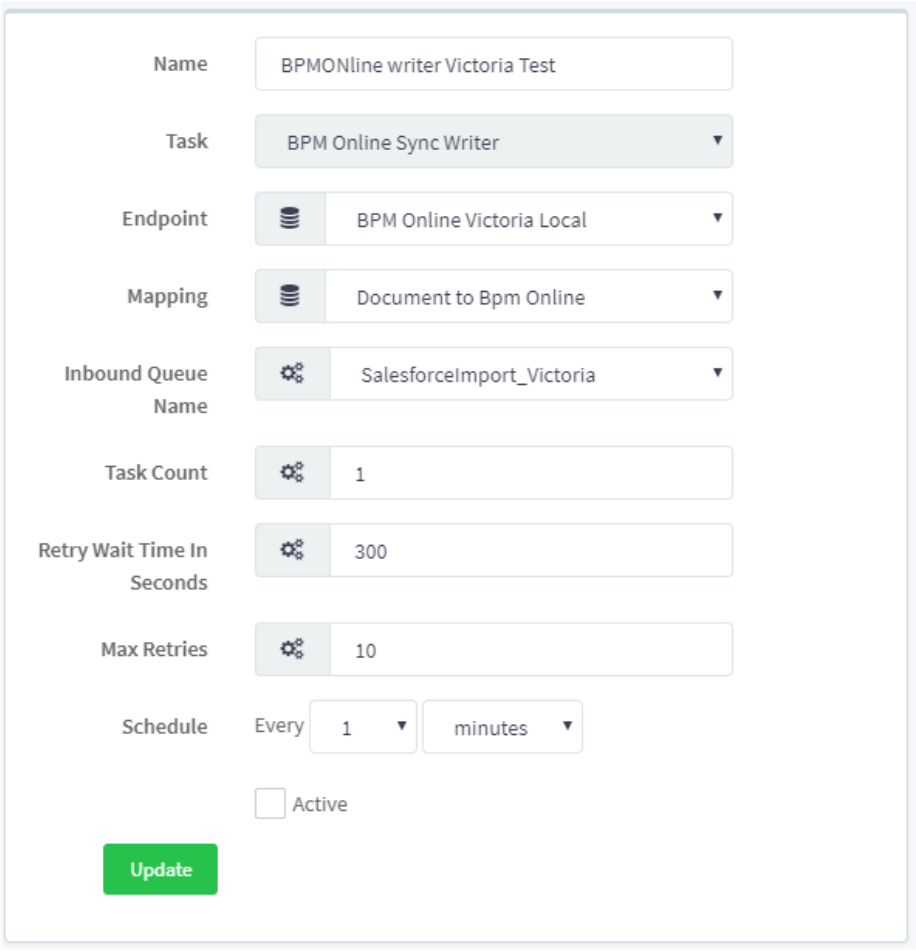
a. Name: Enter a meaningful name (i.e.: Salesforce Import Reader).
b. Task: Select “Salesforce Import Reader” task.
c. Endpoint: Choose Salesforce endpoint created in previous steps.
d. Mapping: Choose “Salesforce to Document” mapping.
e. Outbound Queue Name: Choose queue created in previous steps.
f. Batch Size: Leave default value.
g. Retry Wait Time: Leave default value.
h. Max Retries: Leave default value.
i. Schedule: Leave default value.
j. Active: Checked.

Bpm'online Writer Schedule

1. In the navigation bar, click on "Integration" > "Schedules".



2. Click on the "+" icon to create a new Schedule.
3. Enter required settings.



   a. Name: Enter a meaningful name (i.e.: Bpm'online Writer).
   b. Task: Select "BPM Online Sync Writer" task.
   c. Endpoint: Choose bpm'online endpoint created in previous steps.

d. Mapping: Choose “Document to bpm’online” mapping.
e. Inbound Queue Name: Choose queue created in previous steps.
f. Task Count: Leave default value.
g. Retry Wait Time: Leave default value.
h. Max Retries: Leave default value.
i. Schedule: Leave default value.
j. Active: Checked.

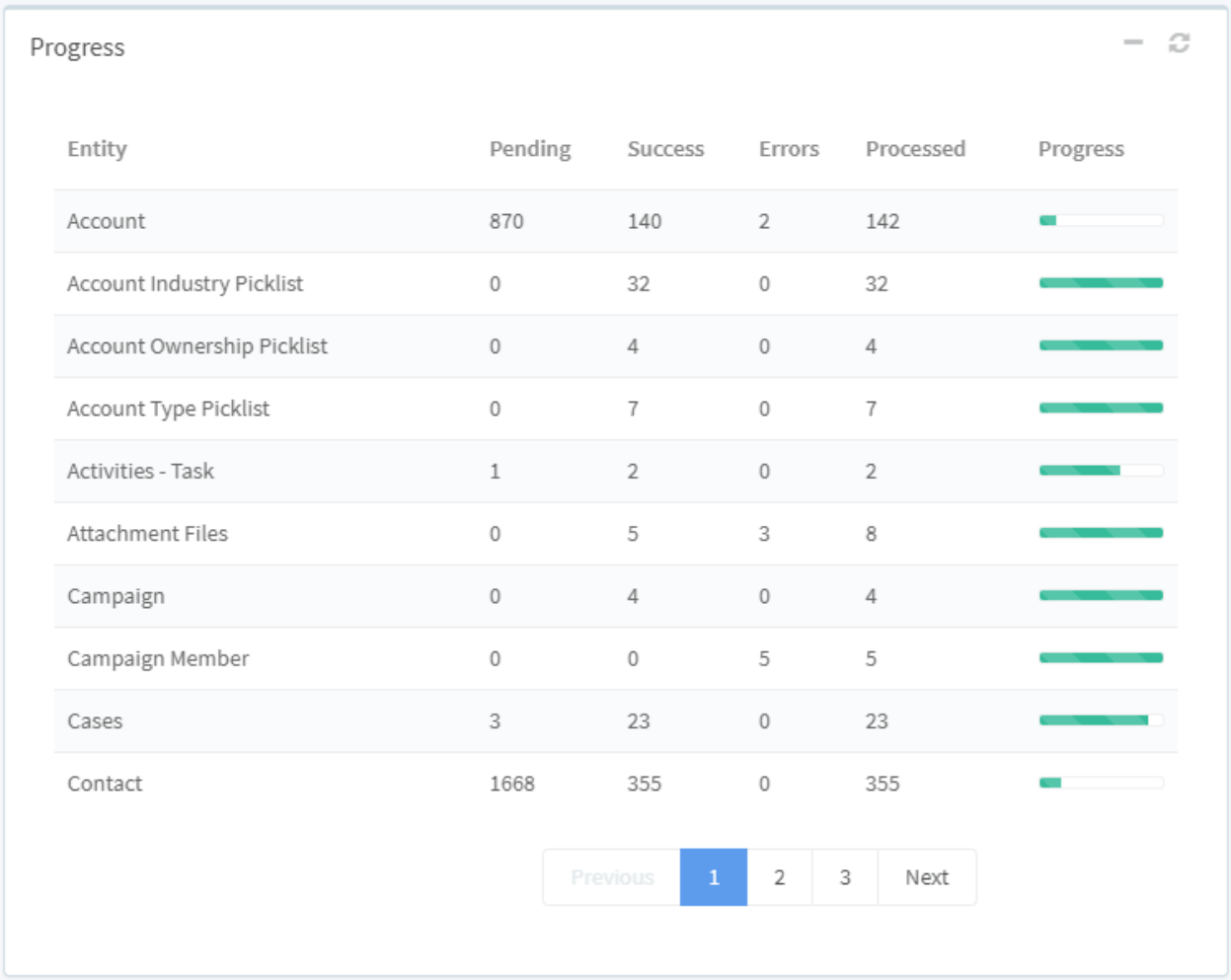
Data Migration

Once the schedules are active, data migration will begin as soon as the schedule triggers the Salesforce Reader and Bpm’online Writer tasks. Depending on specified configuration, the process can begin immediately.

Monitoring

The Salesforce to Bpm'online data migration process can be monitored from a dashboard that shows current status in real time.

Progress by Entity



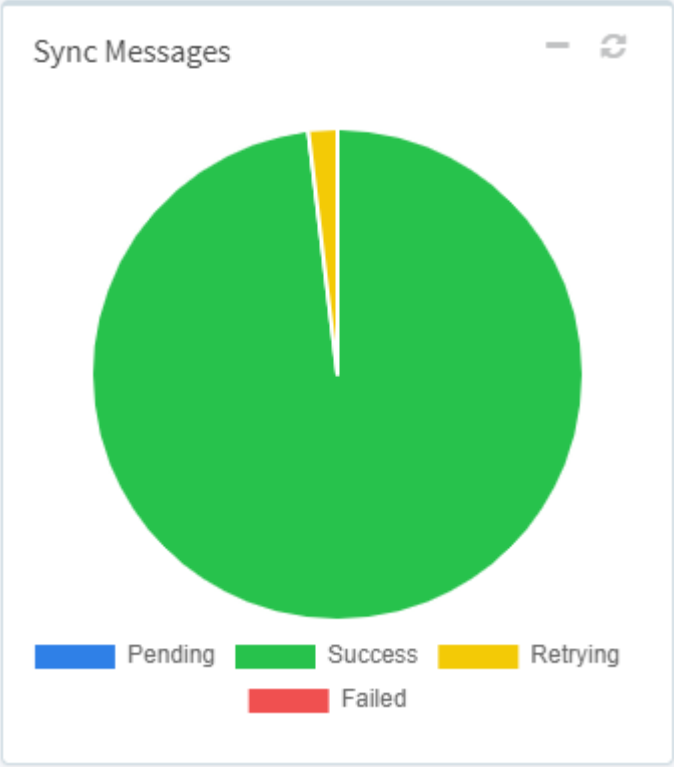
The progress by entity widget provides an effective high-level overview of the status of data migration. Key metrics are available as numeric values and a graphical progress bar shows overall completion of the migration of the specified entity.

Explanation of available metrics:

- **Pending:** Entities that have been read from source system, but not yet written into target system.

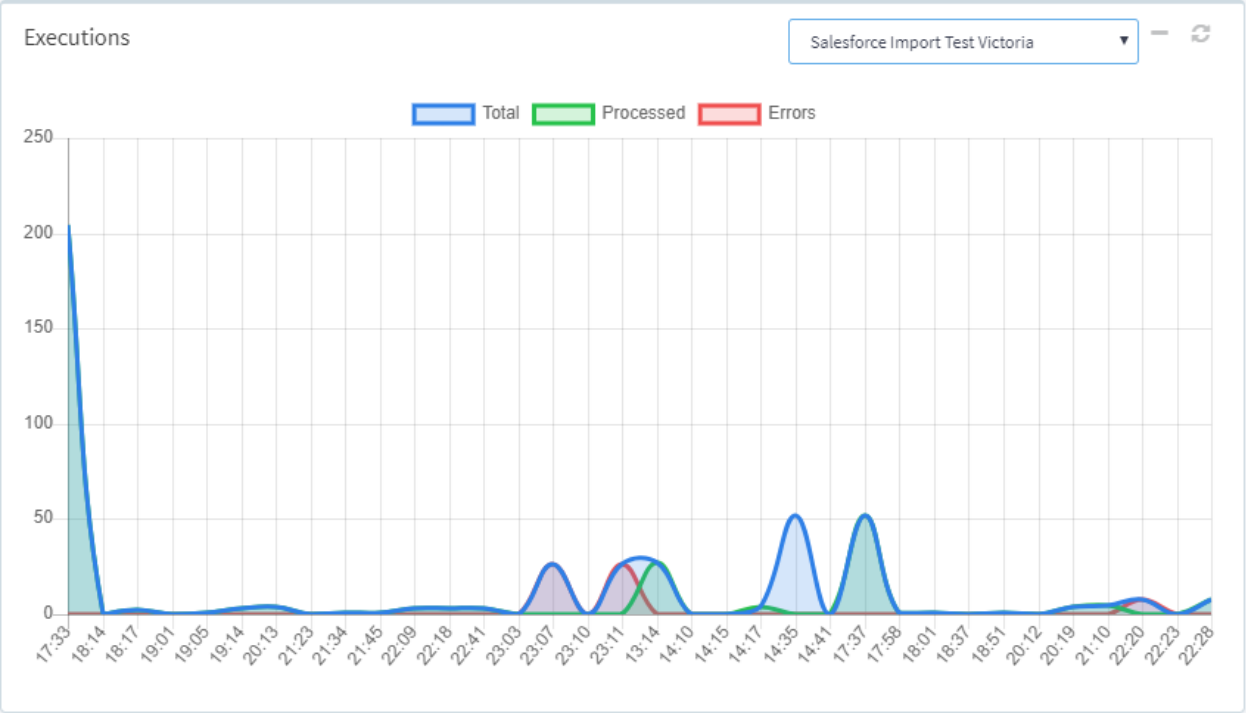
- **Success:** Entities that have been read from source system and successfully written into target system.
- **Errors:** Entities that could not be processed due to unrecoverable errors. It is advised to review those entities in detail to better understand why they failed, possibly fix the issue, and reprocess them. Note that errors can occur both during read and write.
- **Total:** Total number of records to be processed.

Synchronization Messages



The synchronization messages widget provides a high-level overview of progress across all entities.

Speed

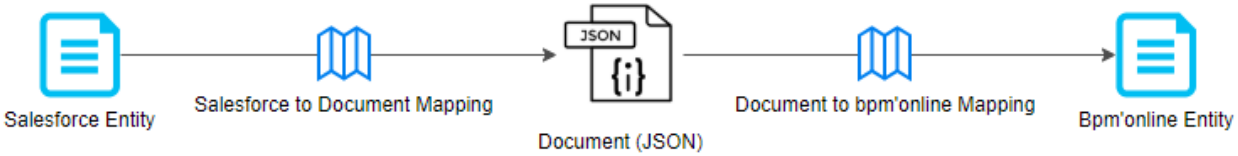


The speed widget allows seeing processing speed in real time. By default, the granularity of the trace is one minute, although this is configurable by the administrator.

Mappings

Salesforce to bpm'online migration application supports extending OOB mappings by adding custom properties, or creating mappings from scratch for 100% custom entities.

Mapping Overview



The mapping process actually consists of two mappings, one that converts a Salesforce entity to a “neutral” object called Document, and another one that converts from Document to a Bpm’online entity.

The Document is a system-agnostic, “canonical” representation of a business concept. It is a virtual entity (so to speak) that defines the structure of what a given business concept looks like, irrespective of system specifics. This effectively decouples the source from the target of the data import.

The document is stored in the *Salesforce to bpm'online migration* database as a JSON object.

Built-in OOB Mappings

Salesforce to bpm'online migration provides a standard set of mappings for core out-of-box Salesforce and Bpm’online entities.

Salesforce Entity	Bpm'online Entity
Account Ownership Picklist	AccountOwnership
Account Industry Picklist	AccountIndustry
Opportunity Type Picklist	OpportunityType
Task Priority Picklist	ActivityPriority
Account Type Picklist	AccountType
Account Source Picklist	AccountSource
Opportunity Stage Picklist	OpportunityStage
Task Status Picklist	ActivityStatus

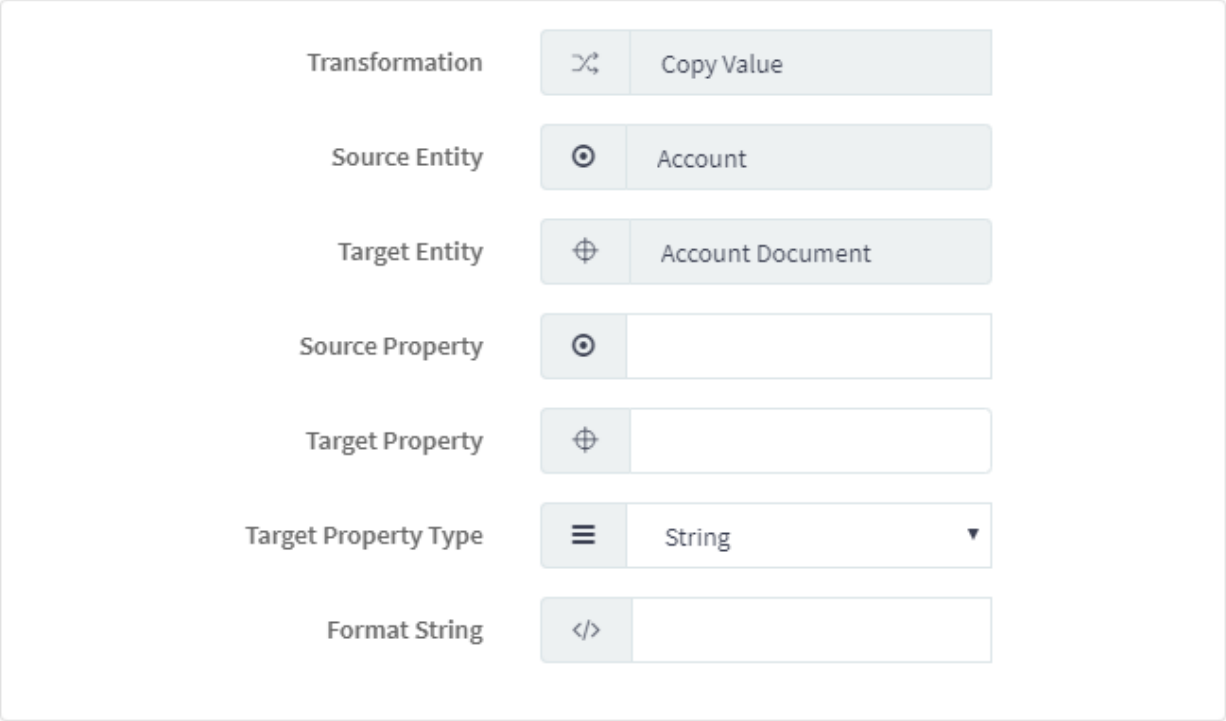
Product Family Picklist	ProductType
Lead Source Picklist	LeadSource
Task Subject Picklist	ActivityCategory
Contract Status Picklist	ContractState
Account	Account
Activity	Tasks (Activity)
Campaign	Campaign
Campaign Member	CampaignParticipant
Case	Case
Contact	Contact
Contract	Contract
Event	Event
Lead	Lead
Opportunity	Opportunity
Opportunity Product	Opportunity Product
Order	Order
Order Product	OrderProduct
Price Book	Pricelist
Price Book Entry	ProductPrice
Product	Product
Task	Tasks (Activity)
User	Users

Data Transformations

Copy Value

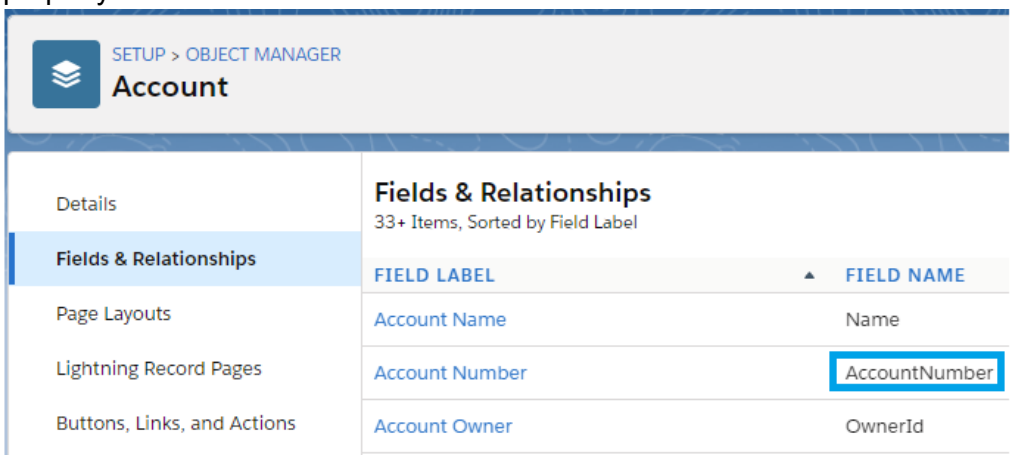
- Copy value is the simplest (and most used) data transformation.
- It copies a property value from one entity to a property on another entity.
- Depending on the target property type, different options are available for data conversion, formatting, and validation.

Copy Value - General Settings

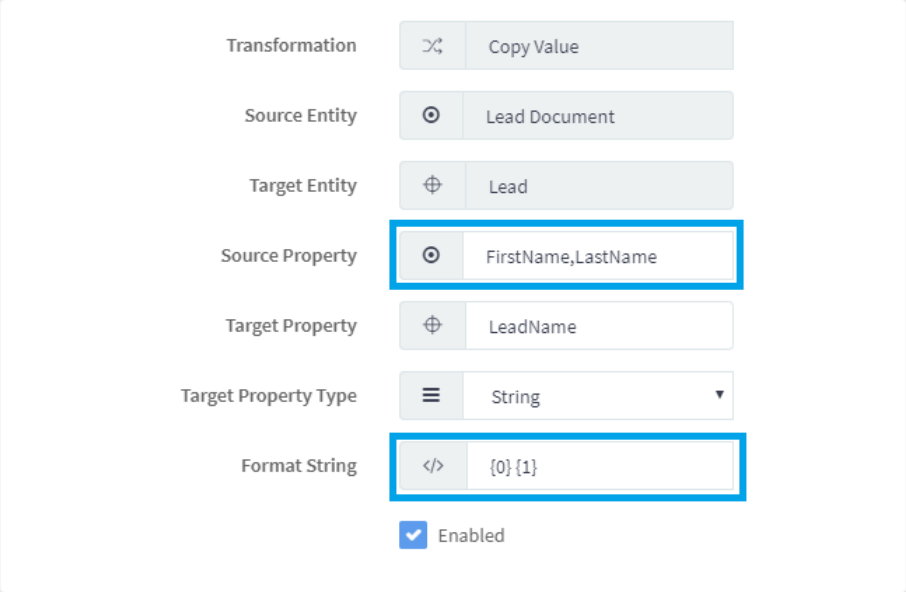


- **Transformation:** The type of data transformation (read only).
- **Source Entity:** The name of the source entity (read only).
  - Free text field.
  - Should match the name under which the entity is exposed by the source system API.
- **Source Property:** The name of the source property.
  - Free text field.
  - Should match the name under which the property is exposed by the source system API.

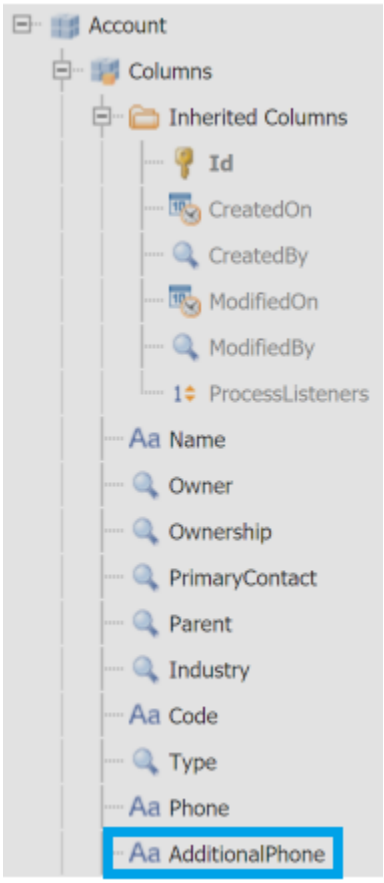
- An example from Salesforce, note how the label is “Account Number” but the property name is “AccountNumber” - the latter is the one to use:

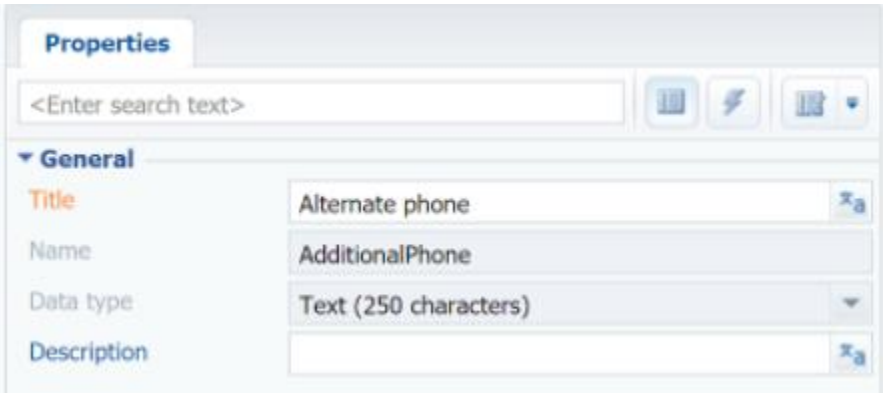


- The Source Property can refer to more than one property. In this case, property names should be comma separated. This is used in conjunction with the format string to define the computed output. Example:



- **Target Property:** The name of the target property.
  - Free text field.
  - Should match the name under which the property is exposed by the target system API.
  - An example from Bpm’online, note how the label is “Additional phone” but the property name is “AdditionalPhone” - the latter is the one to use:

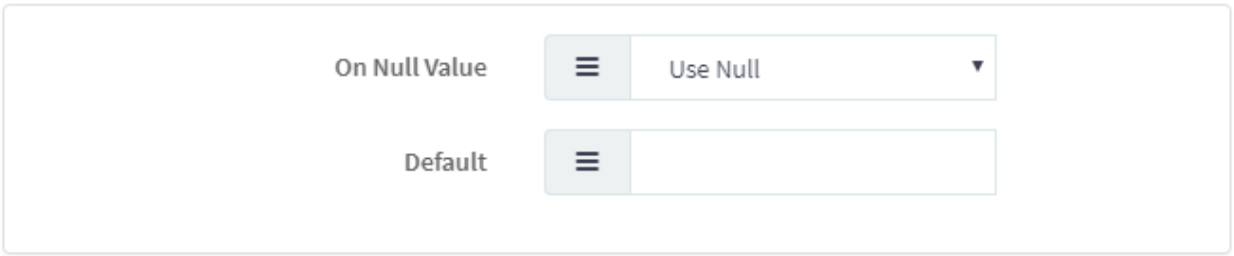




- **Target Property Type:** The data type of the target property.
    - If the source and target data types do not match, the system attempts to perform a type conversion.
    - If type conversion fails, an error is raised, and the whole entity is rejected.
- **Format String:** A C# format string. Properties are referred to by their index, starting at 0.
    - For example, if “Source Property” is “City,State”, the value of “City” can be referred to by entering {0} and the value of “State” by entering {1}.

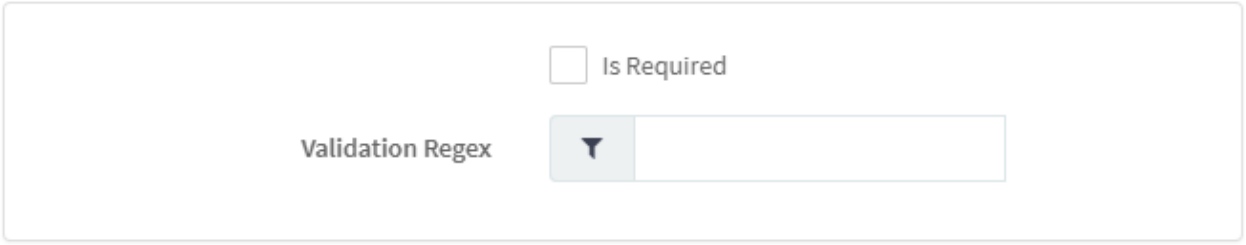
- So, if the desired output is a string of the form “City, State” (as in “New York, NY”), the format string would be “{0} {1}”.
- For more information on the possibilities of format string, refer to this Microsoft article.

Copy Value - Null Handling



- Available for all “Target Property Type” values.
- **On Null Value:** Action to take if source value is null. If “Format String” is defined, On Null Value will be applied to the computed value after formatting.
  - Use Null: The target property is set to null.
  - Use Default: The target property is set to default value.
  - Skip Property: Do not include the specified property in the target entity.
- **Default:** Value to use when “Use Default” value is selected.

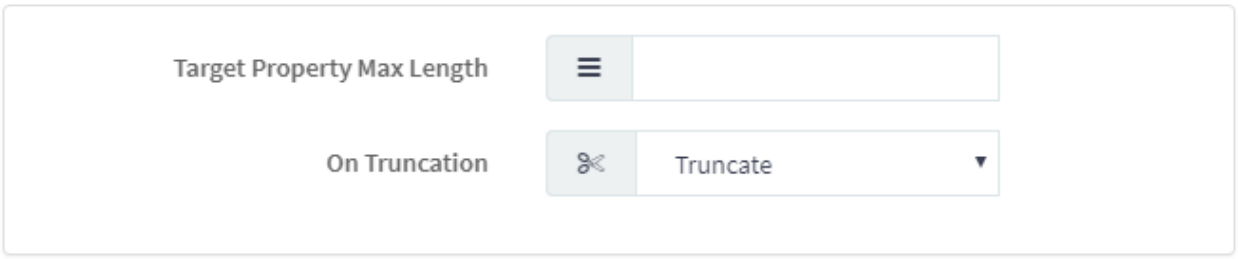
Copy Value - Validation



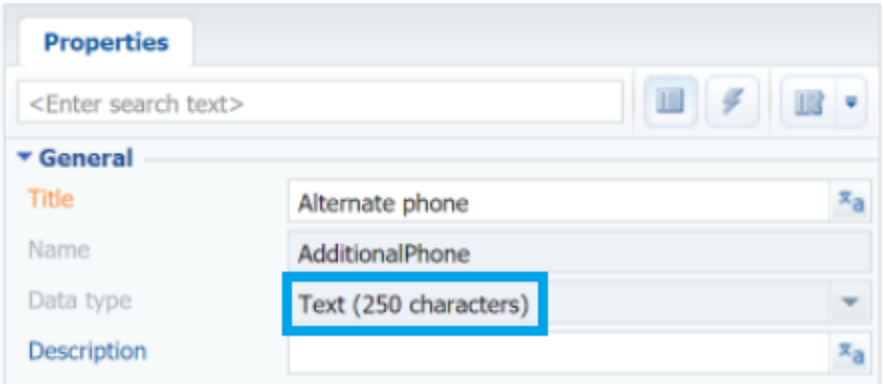
- Available for all “Target Property Type” values.
- **Is Required:** Enforces that all specified “Source Property” values are non-null and non-empty.
  - If the validation is not passed, the whole entity is rejected.
- **Validation Regex:** A validation regular expression.
  - Used for more complex validations, such as verifying that an email address is correctly formed.
  - If the regular expression does not find a match, the whole entity is rejected.
  - In order to evaluate the regular expression, the system concatenates all “Source Property” values comma separated (no spaces) before looking for matches.
  - For more information on regular expressions, refer to this Microsoft article.

- Example use case - an email validation regular expression:

Copy Value - Length & Truncation

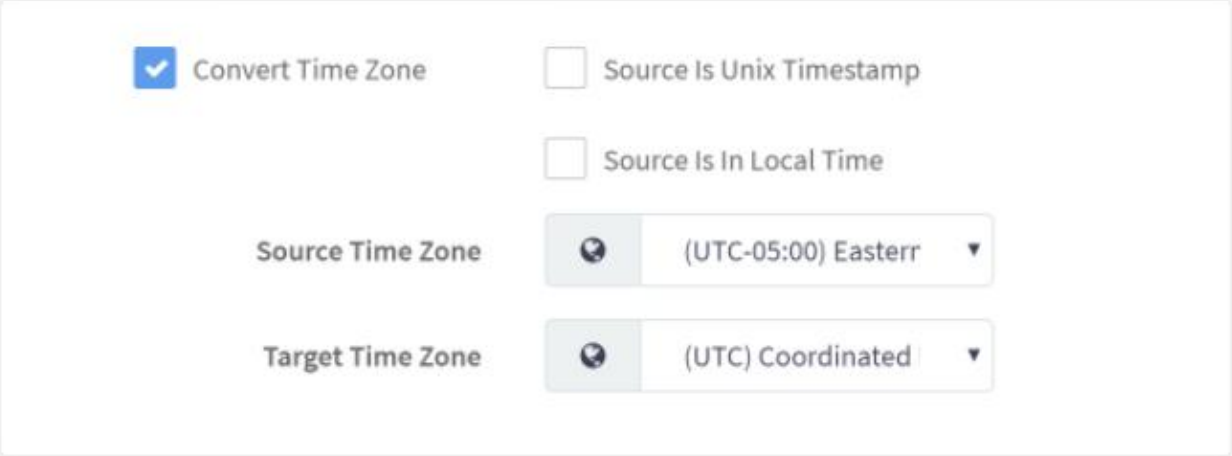


- Only available when “Target Property Type” is “String”.
- **Target Property Max Length:** The length of the target property. This information can be usually gathered from the development environment of the target system. Example from Bpm’online:



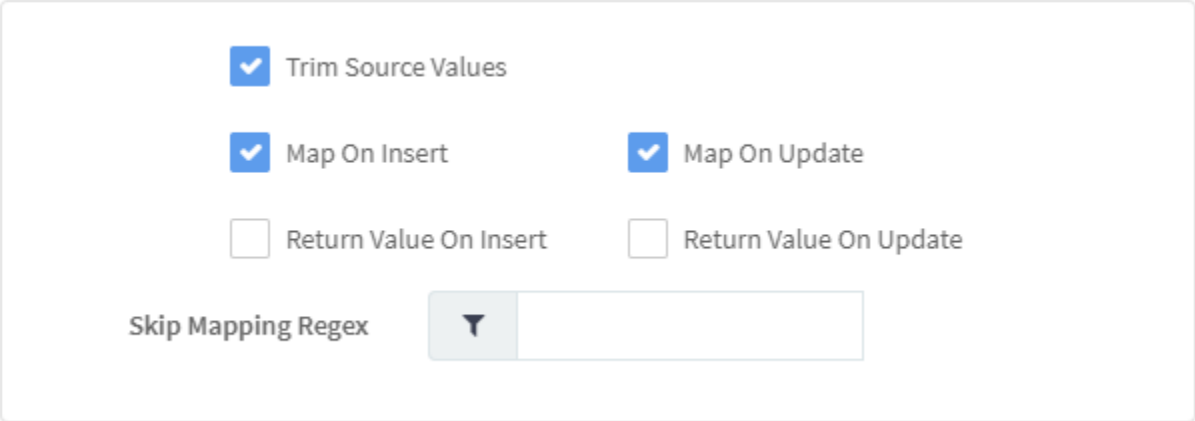
- **On Truncation:** Action to take if source string value exceeds specified Max Length. If “Format String” is defined, truncation will be applied to the computed value after formatting.
  - Truncate: The source string value is truncated to the specified Max Length, if it exceeds the specified Max Length. If this is a non-critical field, this is the most common configuration. Note data may potentially be lost.
  - Null: The source value is ignored, and the target property is set to null. Note data may potentially be lost.
  - Error: An error is raised, and the whole entity is rejected.

Copy Value - Date Conversion



- Only available when “Target Property Type” is “Date Time”.
- **Convert Time Zone:** Enables time zone conversion. Generally used to convert to/from UTC to a specific time zone.
  - Source Time Zone: The source time zone.
  - Target Time Zone: The target time zone.
- **Source is Unix Timestamp:** If the source value is a Unix Timestamp, allows converting it to a regular DateTime object before processing.
- **Source is in Local Time:** Treat source value as local time. Date is converted to Target Time Zone as it comes.

Copy Value - Advanced



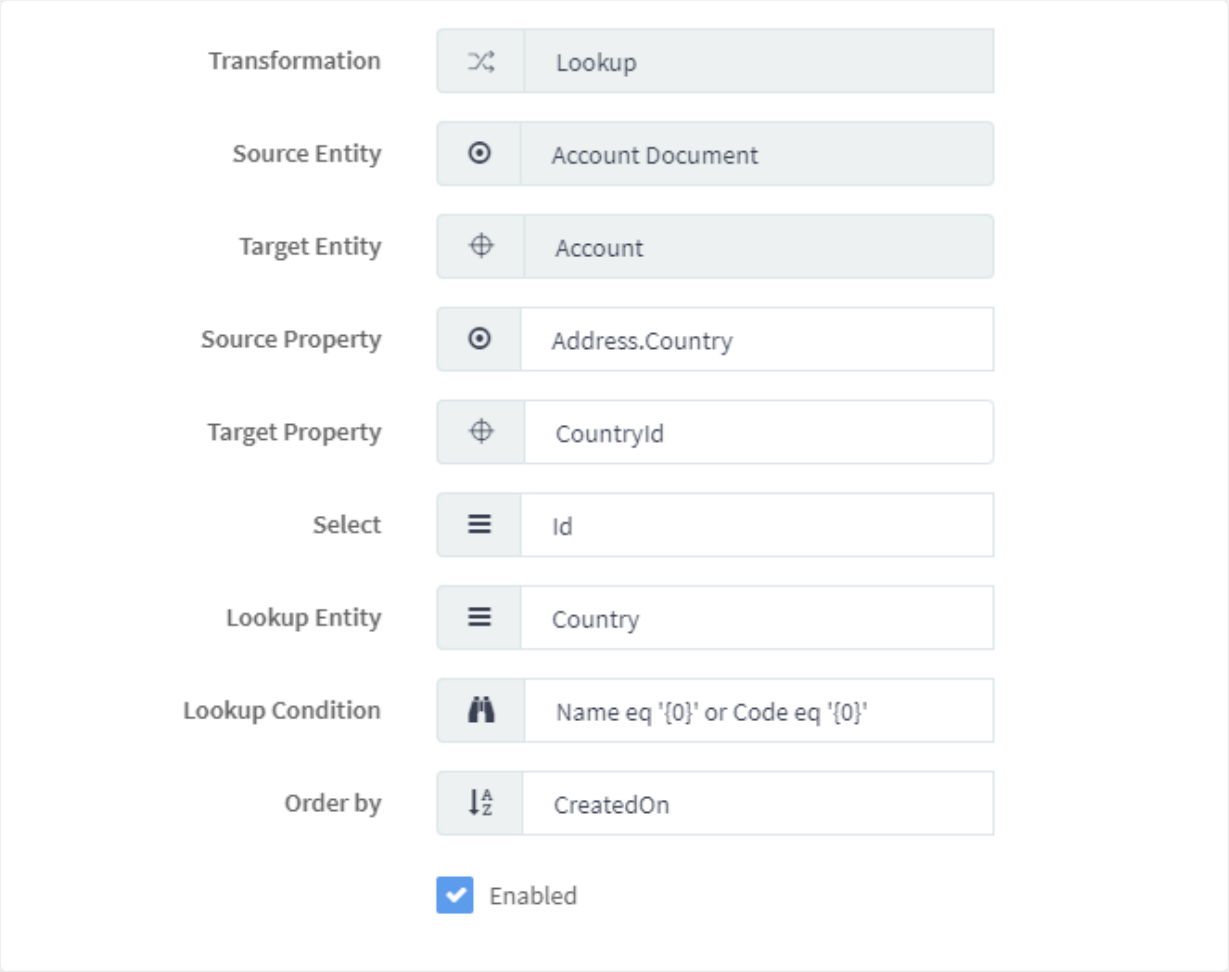
- Available for all “Target Property Type” values.
- **Trim Source Values:** Trim values before processing.
- **Map On Insert, Map On Update:** Not used for data import.
- **Return Value On Insert, Return Value On Update:** Not used for data import.

- **Skip Mapping Regex:** If the regular expression does not find a match, the specified property is not included in the target entity.
    - In order to evaluate the regular expression, the system concatenates all “Source Property” values comma separated (no spaces) before looking for matches.
    - For more information on regular expressions, refer to this Microsoft article.

Lookup

- Lookup allows searching for a value or entity based on a condition, and using the result of that search as the target value.
- Typically used where there are relationships between entities.

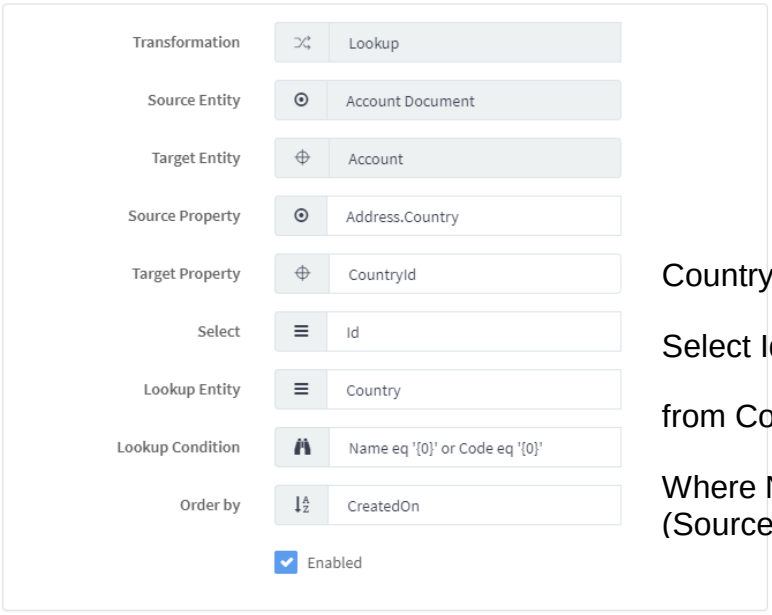
Lookup - General Settings



- **Transformation:** The type of data transformation (read only).
- **Source Entity:** The name of the source entity (read only).
- **Source Property:** The name of the source property.
  - Free text field.
  - Should match the name under which the property is exposed by the source system API.
  - The Source Property can refer to more than one property. In this case, property names should be comma separated.

- **Target Property:** The name of the target property.
    - Free text field.
    - Should match the name under which the property is exposed by the target system API.
- **Select:** Which properties to select from the entity the lookup will be performed on.
    - Free text field.
    - Should match the name under which the properties are exposed by the target system API. Syntax should match that of the target system API; in general properties are comma separated.
- **Lookup Entity:** Name of the entity the lookup will be performed on.
    - Free text field.
    - Should match the name under which the entity is exposed by the target system API.
- **Lookup Condition:** Logical condition passed to the target system API to perform the lookup. Think of this as the “where clause”.
    - Free text field.
    - Syntax should match that of the target system API.
    - Properties are referred to by their index, starting at 0.
- **Order By:** Allows sorting results found by the search. Useful when the search can potentially return several matches, to allow choosing a specific one (for example, the most recently modified).
    - Free text field.
    - Should match the name under which the properties to sort on are exposed by the target system API.

Example explained:



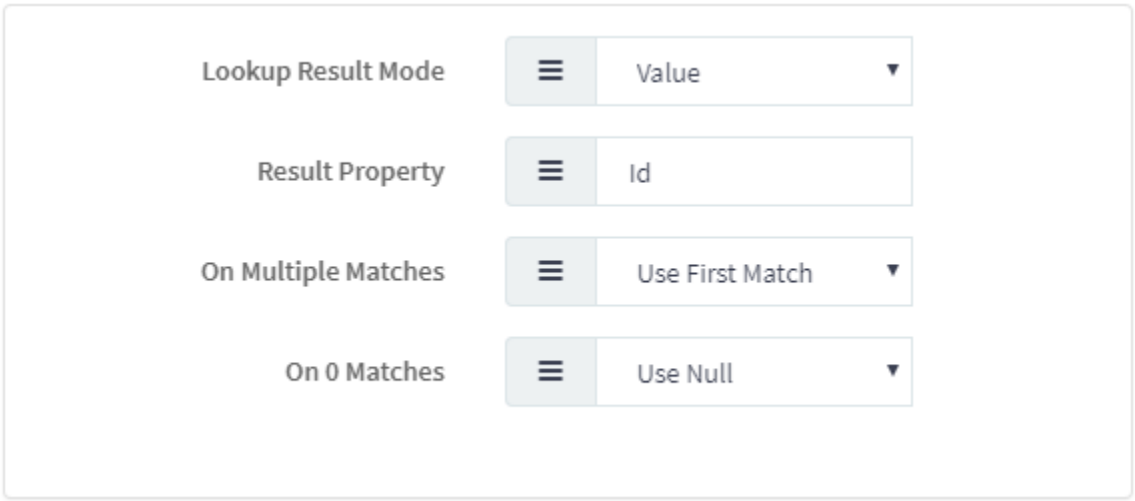
CountryId =

Select Id

from Country

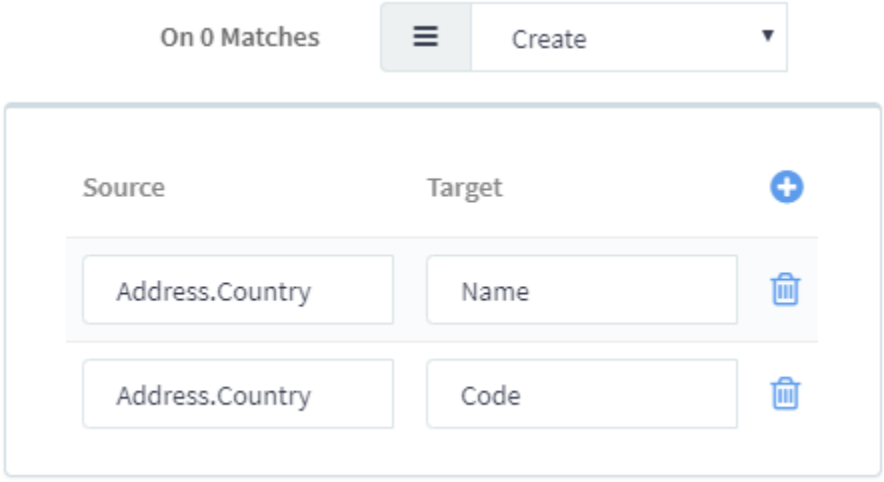
Where Name = Address.Country (Source Property 0)

Lookup - Result Handling



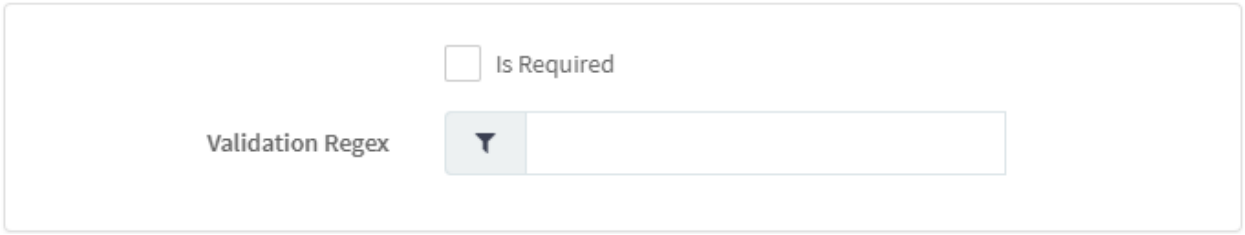
- **Lookup Result Mode:** Allows choosing whether to process the result of the lookup as a scalar or object.
    - Value: A discrete scalar value is used as the result of the lookup. Used in conjunction with “Result Property” to determine which property to use.
    - Object: The entire object returned by the search operation is used as the result of the lookup. This mode is used when a nested object is the expected payload.

- **On Multiple Matches:** Allows choosing behavior when multiple records match the search criteria of the Lookup.
    - Use First Match: The first value returned is used as the result of the Lookup. Generally used in conjunction with an “Order by” property.
    - Use Default: Use the default value, ignoring the search results entirely.
    - Error: An error is raised, and the whole entity is rejected.
- **On 0 Matches:** Allows choosing behavior when zero records match the search criteria of the Lookup. Note: If “Advanced > Retry” is turned on, “On 0 Matches” is executed after all retry attempts have been used.
    - Use Null: The target property is set to null.
    - Use Default: The target property is set to default value.
    - Error: An error is raised, and the whole entity is rejected.
    - Create: The related record is created on-the-fly. A new panel is revealed where properties can be defined to create the related record. In the example below, a new entity will be created on the fly, where Name = Address.Country and Code = Address.Country:



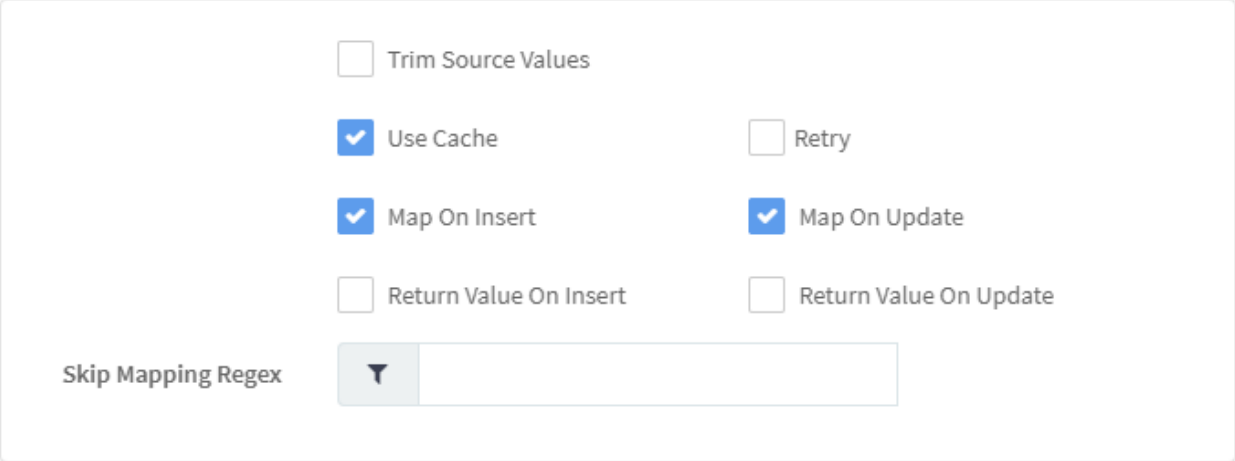
- **Default:** Value to use when “Use Default” value is selected. Depending on whether a value or object should be returned, can be a scalar value or an object in JSON notation.

Lookup - Validation



- See Copy Value - Validation

Lookup - Advanced



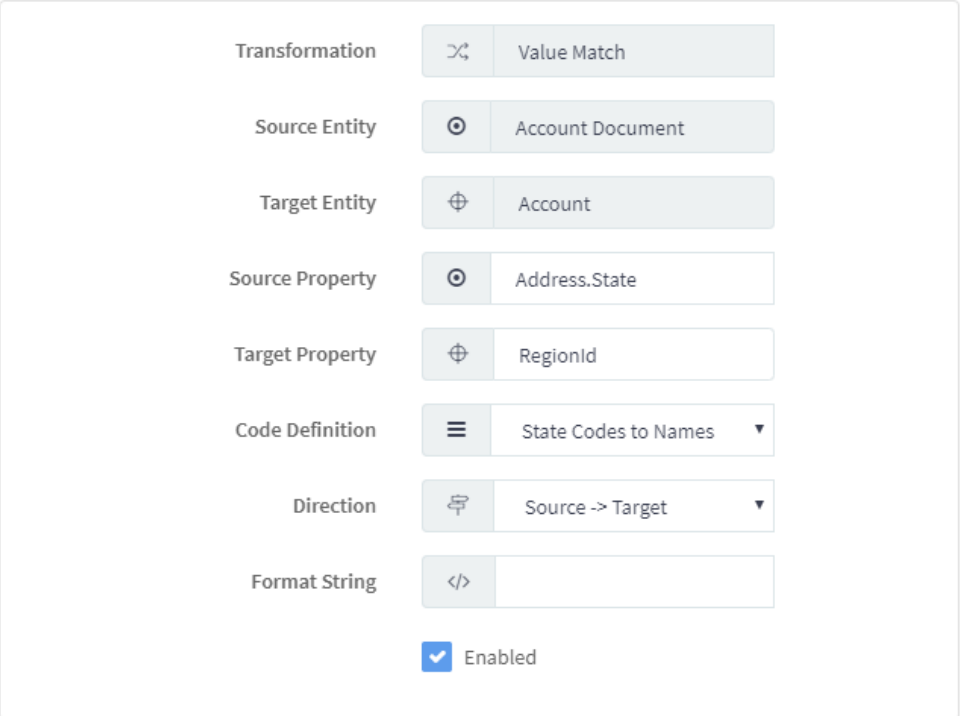
- See Copy Value - Advanced
- **Use Cache:** When turned on, uses an internal data cache to speed up search.
    - If a search with the exact same values has been performed before, and the value is cached, this prevents the system performing a costly API request to search.
- **Retry:** If the search returns 0 matches, and the option is checked, the entity will be reprocessed on a later attempt. If the current attempt is the last attempt, “Result Handling > On 0 Matches” kicks in.

Dictionary Search

- Dictionary Search allows translating the source value based on a search in a list of predefined values.
- Typically used where there is a finite number of options that need to be translated.
- This feature is used in conjunction with a Code Definition. Example code definition to translate between State Code and State Name:

Source Value	Target Value
AL	Alabama
AK	Alaska
AZ	Arizona
AR	Arkansas

Dictionary Search - General Settings



- **Transformation:** The type of data transformation (read only).
- **Source Entity:** The name of the source entity (read only).
- **Source Property:** The name of the source property.

    - Free text field.
    - Should match the name under which the property is exposed by the source system API.
- **Target Property:** The name of the target property.
    - Free text field.
    - Should match the name under which the property is exposed by the target system API.
- **Code Definition:** The dictionary to use.
- **Direction:** Allows choosing the search direction. Can be used to perform translation in either direction.

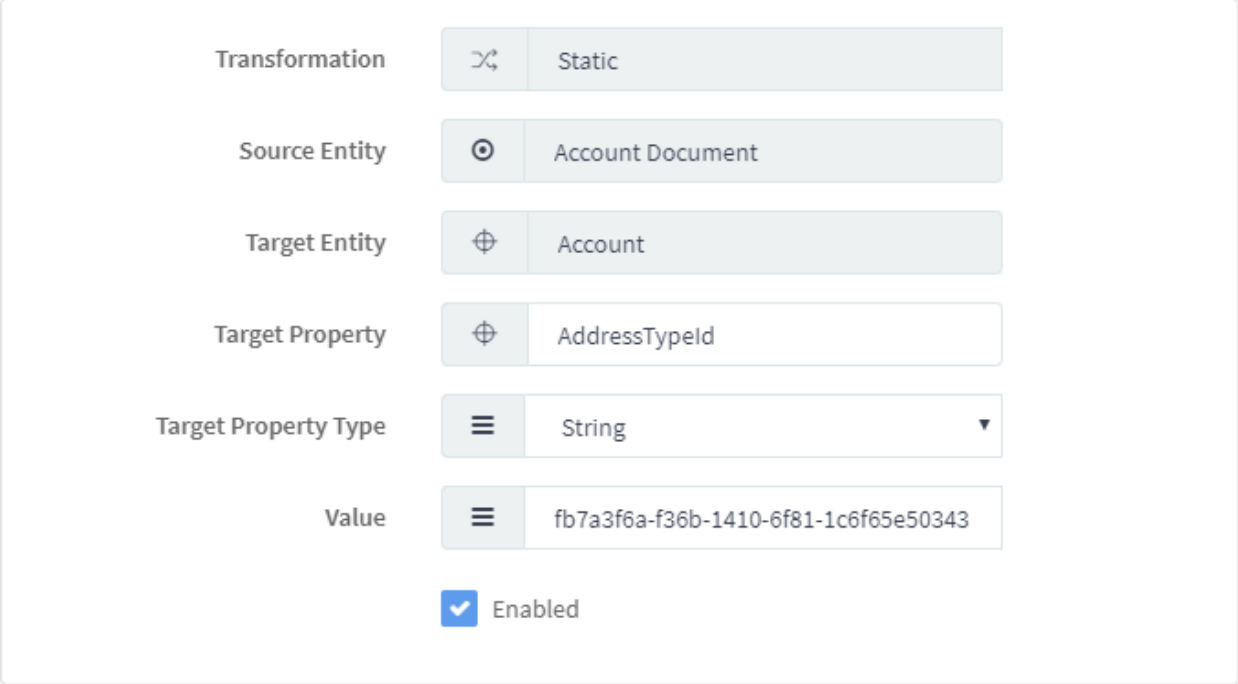
Dictionary Search - Null Handling

- See Copy Value - Null Handling.

Dictionary Search - Validation

- See Copy Value - Validation.

Static

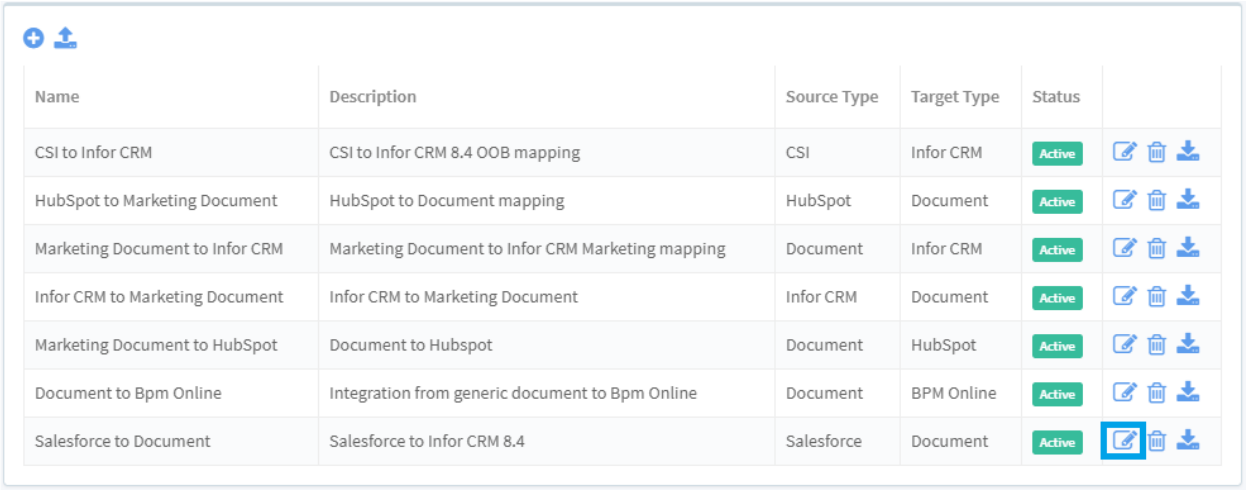


- Static allows setting a hard-coded value the target value.
- Typically used where all target entities get the same value, or to “mark” records pushed by the data import.

Adding a New Entity Mapping

This functionality is typically used to add a custom entity to an existing out-of-box mapping.

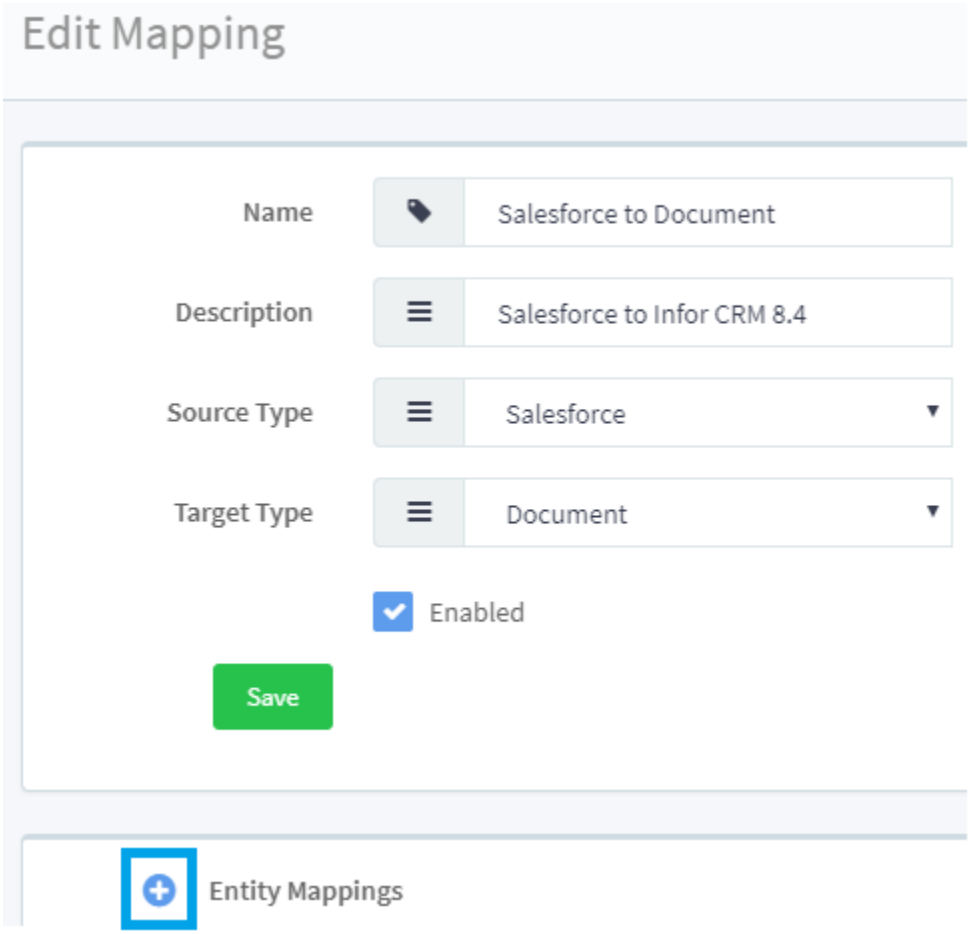
1. In the navigation bar, click on “Mappings”.
2. Locate the mapping set that needs to be modified.
3. Click on the edit icon.



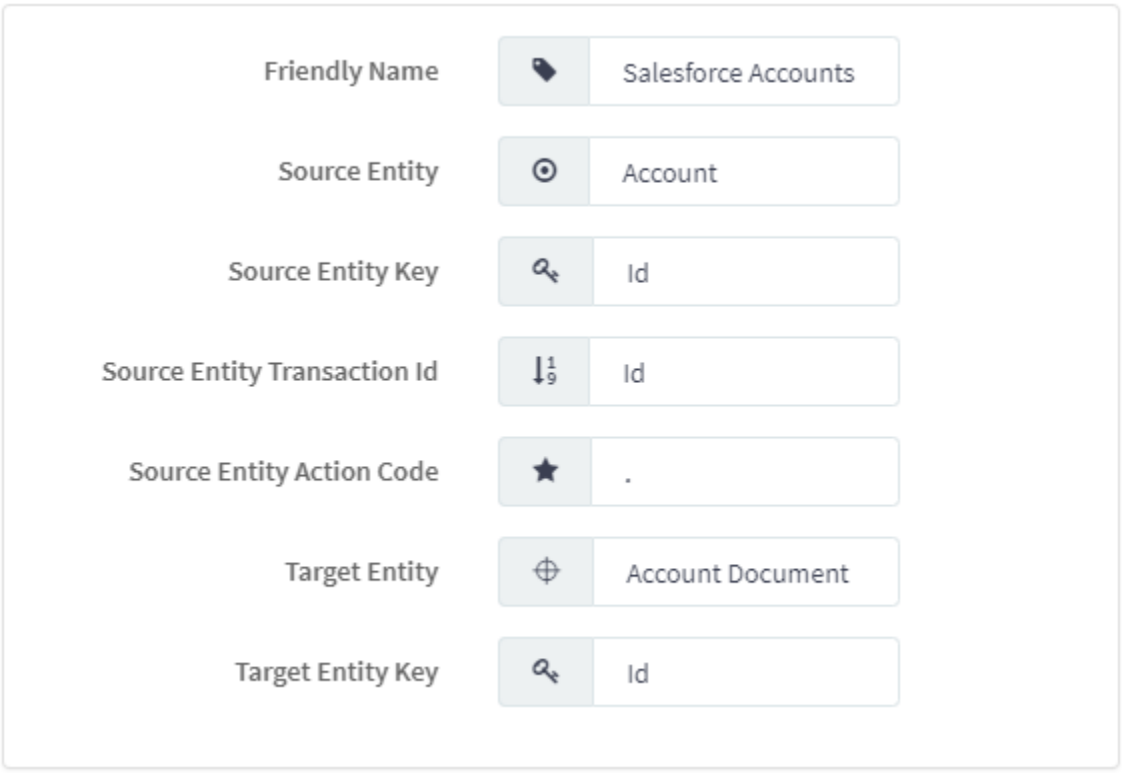
Name	Description	Source Type	Target Type	Status	
CSI to Infor CRM	CSI to Infor CRM 8.4 OOB mapping	CSI	Infor CRM	Active	
HubSpot to Marketing Document	HubSpot to Document mapping	HubSpot	Document	Active	
Marketing Document to Infor CRM	Marketing Document to Infor CRM Marketing mapping	Document	Infor CRM	Active	
Infor CRM to Marketing Document	Infor CRM to Marketing Document	Infor CRM	Document	Active	
Marketing Document to HubSpot	Document to Hubspot	Document	HubSpot	Active	
Document to Bpm Online	Integration from generic document to Bpm Online	Document	BPM Online	Active	
Salesforce to Document	Salesforce to Infor CRM 8.4	Salesforce	Document	Active	

4. The Mapping Set details are displayed.

5. Click on the “+” icon to add a new Entity Mapping.



6. The Create Entity Mapping screen is displayed. Note that, depending on the mapping configuration, not all fields shown below may be displayed.



   a. **Friendly Name:** Used to quickly identify the mapping.
      i. Required.
      ii. Free text.
   b. **Source Entity:** The name of the source entity.
      i. Free text field.
      ii. Should match the name under which the entity is exposed by the source system API.
   c. **Source Entity Key:** The name of the source entity key field.
      i. Free text field.
      ii. Should match the name under which the key field is exposed by the source system API.
   d. **Source Entity Transaction Id:** The name of the source entity transaction Id field - used to determine the delta between what was already processed and what is pending. For *Salesforce to bpm'online migration*, this is the same as the “Source Entity Key”.
      i. Free text field.
      ii. Should match the name under which the key transaction Id is exposed by the source system API.
   e. **Target Entity:** The name of the target entity.

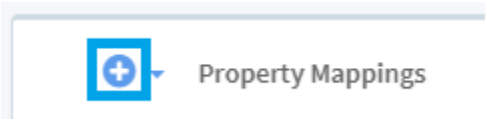
i. Free text field.

f. Target Entity Key: The name of the target entity key field.

Adding Properties to an Entity Mapping

1. Locate the Mapping Set that contains the mapping that needs to be modified.
2. Locate the Entity Mapping that will be modified.
3. Click on the edit icon.

4. The Entity Mapping details screen is displayed.
5. Click on the “+” button in the Property Mappings section.



6. Refer to Data Transformations section for details on available data transformations.